



TEP Rocky Mountain LLC

Garfield County, CO NAD83

SG 32-26 Pad

SG 523-26

OH

Plan: Plan #1 21Feb2018 mmsdi

Standard Planning Report

22 February, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well SG 523-26
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5076' & RKB 24' @ 5100.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5076' & RKB 24' @ 5100.00usft
Site:	SG 32-26 Pad	North Reference:	True
Well:	SG 523-26	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 21Feb2018 mmsdi		

Project	Garfield County, CO NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		SG 32-26 Pad			
Site Position:		Northing:		1,584,791.50 usft	
From:		Easting:		2,272,334.80 usft	
Position Uncertainty:		Slot Radius:		Grid Convergence:	
Map		0.00 usft		13.20 in	
				39.4106932	
				-108.0757637	
				-1.62 °	

Well	SG 523-26					
Well Position	+N/-S	-18.19 usft	Northing:	1,584,773.70 usft	Latitude:	39.4106432
	+E/-W	-13.39 usft	Easting:	2,272,320.90 usft	Longitude:	-108.0758111
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,076.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	2/21/2018	9.42	65.60	51,743

Design	Plan #1 21Feb2018 mmsdi			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	194.97

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,439.71	46.19	194.97	1,301.33	-486.67	-130.10	3.50	3.50	0.00	194.97	
2,114.00	46.19	194.97	1,768.13	-956.76	-255.76	0.00	0.00	0.00	0.00	
3,923.49	10.00	194.97	3,338.00	-1,766.38	-472.19	2.00	-2.00	0.00	180.00	
4,423.49	0.00	0.00	3,835.47	-1,808.43	-483.43	2.00	-2.00	33.01	180.00	
5,748.02	0.00	0.00	5,160.00	-1,808.43	-483.43	0.00	0.00	0.00	0.00	SG 523-26 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well SG 523-26
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Project:	Garfield County, CO NAD83	MD Reference:	GL 5076' & RKB 24' @ 5100.00usft
Site:	SG 32-26 Pad	North Reference:	True
Well:	SG 523-26	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 21Feb2018 mmsdi		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.50									
200.00	2.80	194.97	199.97	-1.89	-0.50	1.95	3.50	3.50	0.00
300.00	6.30	194.97	299.64	-9.55	-2.55	9.89	3.50	3.50	0.00
400.00	9.80	194.97	398.64	-23.08	-6.17	23.89	3.50	3.50	0.00
500.00	13.30	194.97	496.60	-42.42	-11.34	43.91	3.50	3.50	0.00
600.00	16.80	194.97	593.15	-67.50	-18.04	69.87	3.50	3.50	0.00
636.53	18.08	194.97	628.00	-78.07	-20.87	80.82	3.50	3.50	0.00
G Sand									
700.00	20.30	194.97	687.94	-98.23	-26.26	101.68	3.50	3.50	0.00
742.92	21.80	194.97	728.00	-113.12	-30.24	117.10	3.50	3.50	0.00
G Sand Base									
800.00	23.80	194.97	780.61	-134.49	-35.95	139.21	3.50	3.50	0.00
900.00	27.30	194.97	870.82	-176.15	-47.09	182.34	3.50	3.50	0.00
1,000.00	30.80	194.97	958.23	-223.05	-59.63	230.89	3.50	3.50	0.00
9 5/8" Casing @ 1000' MD									
1,058.58	32.85	194.97	1,008.00	-252.90	-67.60	261.78	3.50	3.50	0.00
FRUN									
1,100.00	34.30	194.97	1,042.50	-275.02	-73.52	284.68	3.50	3.50	0.00
1,200.00	37.80	194.97	1,123.34	-331.87	-88.72	343.52	3.50	3.50	0.00
1,300.00	41.30	194.97	1,200.44	-393.37	-105.16	407.19	3.50	3.50	0.00
1,400.00	44.80	194.97	1,273.50	-459.31	-122.78	475.44	3.50	3.50	0.00
1,439.71	46.19	194.97	1,301.33	-486.67	-130.10	503.76	3.50	3.50	0.00
Start 674.29 hold at 1439.71 MD									
1,500.00	46.19	194.97	1,343.07	-528.70	-141.33	547.27	0.00	0.00	0.00
1,600.00	46.19	194.97	1,412.30	-598.42	-159.97	619.43	0.00	0.00	0.00
1,700.00	46.19	194.97	1,481.53	-668.13	-178.61	691.59	0.00	0.00	0.00
1,800.00	46.19	194.97	1,550.76	-737.85	-197.24	763.76	0.00	0.00	0.00
1,900.00	46.19	194.97	1,619.98	-807.56	-215.88	835.92	0.00	0.00	0.00
2,000.00	46.19	194.97	1,689.21	-877.28	-234.52	908.08	0.00	0.00	0.00
2,100.00	46.19	194.97	1,758.44	-947.00	-253.15	980.25	0.00	0.00	0.00
2,114.00	46.19	194.97	1,768.13	-956.76	-255.76	990.35	0.00	0.00	0.00
Start Drop -2.00									
2,200.00	44.47	194.97	1,828.59	-1,015.84	-271.55	1,051.51	2.00	-2.00	0.00
2,300.00	42.47	194.97	1,901.16	-1,082.30	-289.32	1,120.30	2.00	-2.00	0.00
2,400.00	40.47	194.97	1,976.08	-1,146.27	-306.42	1,186.52	2.00	-2.00	0.00
2,500.00	38.47	194.97	2,053.28	-1,207.68	-322.84	1,250.09	2.00	-2.00	0.00
2,600.00	36.47	194.97	2,132.64	-1,266.45	-338.55	1,310.92	2.00	-2.00	0.00
2,700.00	34.47	194.97	2,214.08	-1,322.50	-353.53	1,368.94	2.00	-2.00	0.00
2,704.76	34.37	194.97	2,218.00	-1,325.10	-354.23	1,371.63	2.00	-2.00	0.00
OCRK - MVRD									
2,800.00	32.47	194.97	2,297.49	-1,375.78	-367.77	1,424.09	2.00	-2.00	0.00
2,900.00	30.47	194.97	2,382.78	-1,426.21	-381.26	1,476.29	2.00	-2.00	0.00
3,000.00	28.47	194.97	2,469.84	-1,473.74	-393.96	1,525.48	2.00	-2.00	0.00
3,100.00	26.47	194.97	2,558.56	-1,518.30	-405.87	1,571.61	2.00	-2.00	0.00
3,200.00	24.47	194.97	2,648.83	-1,559.84	-416.98	1,614.61	2.00	-2.00	0.00
3,300.00	22.47	194.97	2,740.56	-1,598.31	-427.26	1,654.44	2.00	-2.00	0.00
3,400.00	20.47	194.97	2,833.61	-1,633.67	-436.71	1,691.04	2.00	-2.00	0.00
3,500.00	18.47	194.97	2,927.89	-1,665.87	-445.32	1,724.36	2.00	-2.00	0.00
3,600.00	16.47	194.97	3,023.27	-1,694.87	-453.07	1,754.38	2.00	-2.00	0.00
3,700.00	14.47	194.97	3,119.64	-1,720.64	-459.96	1,781.05	2.00	-2.00	0.00

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Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5076' & RKB 24' @ 5100.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5076' & RKB 24' @ 5100.00usft
Site:	SG 32-26 Pad	North Reference:	True
Well:	SG 523-26	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 21Feb2018 mmsdi		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,800.00	12.47	194.97	3,216.89	-1,743.14	-465.98	1,804.35	2.00	-2.00	0.00
3,900.00	10.47	194.97	3,314.89	-1,762.35	-471.11	1,824.23	2.00	-2.00	0.00
3,923.49	10.00	194.97	3,338.00	-1,766.38	-472.19	1,828.40	2.00	-2.00	0.00
Start DLS 2.00 TFO 180.00 - KMGAS									
3,930.47	9.86	194.97	3,344.88	-1,767.54	-472.50	1,829.61	2.00	-2.00	0.00
SG 523-26 KMV									
4,000.00	8.47	194.97	3,413.52	-1,778.24	-475.36	1,840.68	2.00	-2.00	0.00
4,100.00	6.47	194.97	3,512.66	-1,790.80	-478.72	1,853.68	2.00	-2.00	0.00
4,200.00	4.47	194.97	3,612.20	-1,800.01	-481.18	1,863.21	2.00	-2.00	0.00
4,300.00	2.47	194.97	3,712.02	-1,805.86	-482.74	1,869.27	2.00	-2.00	0.00
4,400.00	0.47	194.97	3,811.98	-1,808.33	-483.40	1,871.83	2.00	-2.00	0.00
4,423.49	0.00	0.00	3,835.47	-1,808.43	-483.43	1,871.93	2.00	-2.00	702.63
Start 1324.53 hold at 4423.49 MD									
4,500.00	0.00	0.00	3,911.98	-1,808.43	-483.43	1,871.93	0.00	0.00	0.00
4,600.00	0.00	0.00	4,011.98	-1,808.43	-483.43	1,871.93	0.00	0.00	0.00
4,700.00	0.00	0.00	4,111.98	-1,808.43	-483.43	1,871.93	0.00	0.00	0.00
4,800.00	0.00	0.00	4,211.98	-1,808.43	-483.43	1,871.93	0.00	0.00	0.00
4,900.00	0.00	0.00	4,311.98	-1,808.43	-483.43	1,871.93	0.00	0.00	0.00
5,000.00	0.00	0.00	4,411.98	-1,808.43	-483.43	1,871.93	0.00	0.00	0.00
5,100.00	0.00	0.00	4,511.98	-1,808.43	-483.43	1,871.93	0.00	0.00	0.00
5,148.02	0.00	0.00	4,560.00	-1,808.43	-483.43	1,871.93	0.00	0.00	0.00
CMEO									
5,200.00	0.00	0.00	4,611.98	-1,808.43	-483.43	1,871.93	0.00	0.00	0.00
5,300.00	0.00	0.00	4,711.98	-1,808.43	-483.43	1,871.93	0.00	0.00	0.00
5,400.00	0.00	0.00	4,811.98	-1,808.43	-483.43	1,871.93	0.00	0.00	0.00
5,500.00	0.00	0.00	4,911.98	-1,808.43	-483.43	1,871.93	0.00	0.00	0.00
5,600.00	0.00	0.00	5,011.98	-1,808.43	-483.43	1,871.93	0.00	0.00	0.00
5,648.02	0.00	0.00	5,060.00	-1,808.43	-483.43	1,871.93	0.00	0.00	0.00
RLNS									
5,700.00	0.00	0.00	5,111.98	-1,808.43	-483.43	1,871.93	0.00	0.00	0.00
5,748.02	0.00	0.00	5,160.00	-1,808.43	-483.43	1,871.93	0.00	0.00	0.00
TD at 5748.02 - SG 523-26 PBHL									

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude		Longitude
- hit/miss target										
- Shape										
SG 523-26 KMV	0.00	0.00	3,338.00	-1,808.43	-483.43	1,582,979.70	2,271,786.40	39.4056781		-108.0775220
- plan misses target center by 42.88usft at 3930.47usft MD (3344.88 TVD, -1767.54 N, -472.50 E)										
- Circle (radius 50.00)										
SG 523-26 PBHL	0.00	0.00	5,160.00	-1,808.43	-483.43	1,582,979.70	2,271,786.40	39.4056781		-108.0775220
- plan misses target center by 0.01usft at 5748.02usft MD (5160.00 TVD, -1808.43 N, -483.43 E)										
- Point										

Casing Points							
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (in)	Hole Diameter (in)		
1,000.00	958.23	9 5/8" Casing @ 1000' MD		9.62	13.50		

Database:	Grand Junction District	Local Co-ordinate Reference:	Well SG 523-26
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Project:	Garfield County, CO NAD83	MD Reference:	GL 5076' & RKB 24' @ 5100.00usft
Site:	SG 32-26 Pad	North Reference:	True
Well:	SG 523-26	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 21Feb2018 mmsdi		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
636.53	628.00	G Sand		0.00	0.00	
742.92	728.00	G Sand Base		0.00	0.00	
1,058.58	1,008.00	FRUN		0.00	0.00	
2,704.76	2,218.00	OCRK		0.00	0.00	
2,704.76	2,218.00	MVRD		0.00	0.00	
3,923.49	3,338.00	KMVGAS		0.00	0.00	
5,148.02	4,560.00	CMEO		0.00	0.00	
5,648.02	5,060.00	RLNS		0.00	0.00	
5,748.02	5,160.00	TD		0.00	0.00	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
120.00	120.00	0.00	0.00	Start Build 3.50	
1,439.71	1,301.33	-486.67	-130.10	Start 674.29 hold at 1439.71 MD	
2,114.00	1,768.13	-956.76	-255.76	Start Drop -2.00	
3,923.49	3,338.00	-1,766.38	-472.19	Start DLS 2.00 TFO 180.00	
4,423.49	3,835.47	-1,808.43	-483.43	Start 1324.53 hold at 4423.49 MD	
5,748.02	5,160.00	-1,808.43	-483.43	TD at 5748.02	